Journal of Robotic Systems

Contents
Volume 5, 1988

Number 1, February 1988

1 Tactile Array Sensor for Object Identification Using Complex Moments
Ren C. Luo and Horng-Hai Loh

13 Hypersurfaces of Special Configurations of Serial Manipulators and Related Concepts. Part I: Theory and Development of the Hypersurfaces of Special Configurations
Resit Soylu and Joseph Duffy

31 Hypersurfaces of Special Configurations of Serial Manipulators and Related Concepts. Part II: Passive Joints Configurations, Component Manifolds and Some Applications
Resit Soylu and Joseph Duffy

55 Hypersurfaces of Special Configurations of Serial Manipulators and Related Concepts. Part III: Measures for the Position and Orientation Space of 6 DOF Manipulators
Resit Soylu and Joseph Duffy

73 An Experimental Investigation of an Articulating Robotic Manipulator with Graphite-Epoxy Composite Arm
S. B. Choi, M. V. Gandhi, B. S. Thompson, and C. Y. Lee

Number 2, April 1988

87 Region Filling Operations with Random Obstacle Avoidance for Mobile Robots
Zuo Liang Cao, Yuyu Huang, and Ernest L. Hall

103 Position Control of Two-Arm Manipulators for Coordinated Point-to-Point Motion
B. Benhabib, G. Zak, and E. Tabarah

125 Collision Avoidance for Robot Manipulators: Application to CATIA/IBM 7565 Interface
R. W. Fletcher and A. A. Goldenberg

147 A Feasibility Study of IC Chip Wire Bond Inspection
A. L. Pai, K. U. Patel, and K. K. Lai

Number 3, June 1988

181 Acceleration Feedback for Control of a Flexible Manipulator Arm
Paul T. Kotnick, Stephen Yurkovich, and Ümit Özgüner

197 A Minature Robotic Boundary Layer Data Acquisition System
Stuart Wilkinson

209 Inverse Dynamic Analysis and Simulation of a Platform Type of Robot
W. Q. D. Do and D. C. H. Yang

Tutorial
229 The Application of Newton-Euler Recursive Methods to the Derivation of Closed Form Dynamic Equations
M. R. Driels, U. J. Fan, and U. S. Pathre

249 Acknowledgment of Referees

Number 4, August 1988

251 Editorial: Focusing Attention on Intelligent Systems and Processes
A. Meystel

253 A Case for Integrated World Models
H. E. Stephanou

255 Knowledge Implementation: Structures of Intelligent Control
George N. Saridis

269 Intelligent Control in Robotics
A. Meystel

309 Evidential Classification of Dexterous Grasps for the Integration of Perception and Action
H. E. Stephanou and A. M. Erkmen

337 Error Recovery in Automated Manufacturing through the Augmentation of Programmed Processes
Paul J. Fielding, Frank DiCesare, and Geoffrey Goldbogen

363 A Trainable Neuromorphic Controller
Allon Guez and John Selinsky

389 Minimum Energy Paths for Optimal Oscillatory Movements of PUMA Arm
Nejat Olgac and Shiping Zhou

Volume Contents for 1988

Number 5, October 1988

409 Redundant Robot Control Using Task Based Performance Measures
Rajiv Dubey and John Y. S. Luh

433 Decoupling and Control Laws Generation from Lagrange Formalism
M. Cotsaftis and C. Vibet

443 Dynamic Stability Analysis of a One-Link Force-Controlled Flexible Manipulator
Bing C. Chiou and M. Shahinpoor

453 Visual Control of Autonomous Mobile Robot Based on Self-Organizing Model for Pattern Learning
Hisashi Suzuki and Suguru Arimoto

471 Robustness of Decentralized Robot Controller to Payload Variation
D. Stokić and M. Vukobratović

Number 6, December 1988

497 Collision-Avoidance Trajectory Planning Using Tube Concept: Analysis and Simulation
Suk-Hwan Suh and Albert B. Bishop

527 Numerical Filtering for the Operation of Robotic Manipulators through Kinematically Singular Configurations
Anthony A. Maciejewski and Charles A. Klein

553 An Alternative Algebra for Deriving Equations of Motion of Flexible Manipulators
Louis J. Everett

567 The Design and Control of a Robot Finger for Tactile Sensing
S. O. Leaver, J. M. McCarthy, and J. E. Bobrow

583 Measuring Learning Progress in Intelligent Autonomous Robots
Ahmed S. Mohamed and William W. Armstrong

609 Author Index to Volume 5

613 Volume Contents